Hypnosis: How effective is it in reducing perceptions of pain and fear of birth in pregnant women?

Feasibilty of hypnosis to reduce anxiety in pregnant women

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Abstract

Aim: This study aimed to evaluate the effect of hypnosis on the perception of pain by decreasing the intensity and anxiety of pregnant women and reducing the fear of vaginal birth.

Material and Methods: A cross-sectional study was conducted with 75 pregnant women in the antenatal clinics of a tertiary hospital in Ankara, Turkey, from January 2018 to January 2019. Hypnosis was applied to pregnant women for five cycles on the days when they attended prenatal class for 5 weeks (1 cycle in one week). The Wijma Maternal Expectancy/Experience Questionnaire Version A was administered before and after hypnosis.

Results: A statistically significant difference was found between the total Wijma scores in the study group before and after hypnosis (p<0.05), indicating a significant decrease in the fear of childbirth and in the perception of labor pain after hypnosis.

Discussion: Considering the increasing cesarean section rates in Turkey and all over the world, with widespread hypnosis application to pregnant women, optional cesarean sections along with the fear of childbirth are expected to decrease. The potential anxiolytic and analgesic effects of clinical hypnosis for childbirth merit further larger prospective studies.

Keywords

Hypnosis; Labor pain; Anxiety; Fear of birth

Introduction

Cesarean section is one of the most common surgical interventions in the world [1]. Although the World Health Organization points out that ideal cesarean rates should be 10-15% of all births, the frequency of cesarean section is increasing worldwide [2,3].

One of the most important reasons for increasing cesarean rates is the fear of pain and vaginal delivery [4]. Due to fear of pain, pregnant women avoid vaginal delivery and require a cesarean section. Patients tend to perceive uterine contractions as pain because of their fears.

The human mind works differently as consciousness and subconsciousness. We control and continue our daily life with consciousness. The subconsciousness is like an endless warehouse and the manager of the nervous system, which works uncontrolled in the body. Instant and involuntary reactions are under the control of the subconsciousness. All the emotions we experience about the past are stored and affect our conscious behavior. Our fears, which prevent us from giving birth and make us suffer more at birth, are hidden in our subconsciousness. As everything we hear about childbirth is usually negative and stored as subconscious fears, pregnant women are already under the negative hypnosis of society. The first thing to do for a calm and comfortable birth is to remove these fears and negative emotions. Hypnosis is a method used as the key entry into the subconscious in alertness and awareness. Suggests helps to defeat the unnecessary and exaggerated fears in the subconscious mind and act in a healthier way. This is a technique that allows to get rid of fears, not to feel aches, and can be learned by anyone.

Hypnosis has been recognized by medical organizations (British and American Medical Associations) as an effective clinical tool that can be used by women in labor and may enhance feelings of self-confidence and well-being [5]. With hypnosis, it is possible to replace negative emotions and fears with positive expectations and give a more comfortable birth by gaining control over the pregnant woman's body of the through positive thinking.

This study aimed to evaluate the effect of hypnosis on the perception of pain by decreasing the intensity and anxiety of pregnant women and reducing the fear of vaginal delivery.

Material and Methods

This cross-sectional study was conducted in the antenatal clinics of a tertiary hospital in Ankara, Turkey, from January 2018 to January 2019. Ninety-eight primigravida women between 24-36 weeks of pregnancy and 18-45 years of age were included in the study. Patients with chronic disease, pregnancy complications and a history of cesarean section were excluded. A total of 23 pregnant women were excluded because of developing pregnancy complications and due continued follow-up of pregnancy outside the province. The study was conducted with 75 pregnant women.

The Ethics Committee approved the study, and all individuals were informed about the study and informed written consent was obtained.

Pregnant women underwent hypnosis for five cycles on the days they came for prenatal classes for 5 weeks (1 cycle in one week). Each hypnosis session lasted 1 hour and was carried out for five weeks on the same day and hour. The hypnosis application was administered by the gynecologist who is authorized and certified by the Turkish Ministry of Health to apply hypnosis. During the session, suggestions (to perceive pain as a contraction, not as pain, and not feeling pain) were given to calm the pregnant women and to affirm their subconscious fears. The Wijma Maternal Expectancy/Experience Questionnaire Version A (W-DEQ), which was found to be a valid and reliable tool to measure the fear of childbirth, was administered before and after the completion of hypnosis sessions (37th-40th gestational week). The effect of hypnosis on defeating the fear of labor and labor pain was evaluated.

W-DEQ-Awas developed by Klaas and Barbro Wijma in 1998 based on the clinical experience of women's fear of childbirth, which is a selfscale assessment instrument commonly used inmany studies [6-8]. It consists of 33 questions, with scores ranging from 'not at all' (0) to 'extremely' (5), giving a score between 0-165. A higher score indicates a more intense fear of childbirth. The answers to some of the questions that are positively formulated have to be reversed for the calculation of the women's individual sum score [6]. According to the severity of fear, the fear of birth was evaluated in 4 groups; Fear of childbirth at a low (score≤37), moderate (score 38-65), severe (score 66-84), and clinical level (score≥85).

In W-DEQ, question 24 is related to birth pain. Pregnant women were asked to clarify the prediction of birth pain and were asked to score 5 points. Responses in the scale were numbered 0-5, 0 is expressed as "completely" and 5 as "none," which means that 0 is extremely painful, 5 is no pain. This question is negatively charged and is calculated by turning in the opposite direction to adapt to the measurement. The reliability and validity study of the scale in Turkish was established by Korukcu et al. in 2012 and was found as reliable and valid means to measure the level of fear of childbirth among Turkish pregnants [9].

Pregnant women were placed in a quiet room to complete the questionnaire on their own, and the completed measures were checked by the researcher to ensure there were no obvious problems in their completion.

Statistical analyses were performed using SPSS software (Statistical Package for the Social Sciences, version 22; SPSS Inc., Chicago, IL). Continuous variables were presented as median (min-max), and categorical variables were presented as percentages (%). The suitability of the data for a normal distribution was determined by the Kolmogorov-Smirnov test. In the analysis of quantitative parametric data, the Anova test (Post Hoc Tukey's test) and the non-parametric data,the Kruskal-Wallis test (Post Hoc Mann Whitney-U test) were used. Post-test changes of quantitative data were determined by the paired sample test, and the qualitative data by the Wilcoxon test. Spearman's correlation coefficient was used in the analysis of nonnormally distributed quantitative variables. Statistical significance was considered at a two-tailed value of $p<0.05$.

Results

The mean age of the pregnant women was 26.33±3.45 years; 88.1% of the study group graduated from high school and upper; 97.3% received emotional or physical support from their

partners; 78.8% were primigravida. None of the 75 pregnant women had any previous experience with hypnosis.

A significant decrease was found in the fear of childbirth after hypnosis (Table 1). While there was a fear of birth at a clinical level in the majority of the study group before hypnosis, this ratio was found to change in favor of low fear at birth after hypnosis.

There was a statistically significant difference between total Wijma scores and thoughts of labor before and after hypnosis (Z=-7.520, p=0.000; Z=-7.673, p=0.000) (Table 2). Total Wijma scores were found as meaningfully lower, and thought of labor pain (negatively charged question) were found to be significantly higher after hypnosis, indicating a significant decrease in fear of birth and in the thought of labor pain.

It was observed that although patients had the thought that labor was painful, this idea was meaningfully changed after hypnosis. Twenty-seven patients (90.0%) who perceived birth as very painful and responded as 0-1 before (excessive pain) hypnosis were transferred to 2-3 group, and 34 patients (91.9%) who were in 2-3 group before hypnosis were shifted to 4-5 group (very little/painless group) (Table 3).

A significant relationship was found between fear of labor pain and fear of birth. Although total scores were higher in patients who thought the birth was painful both before and after hypnosis, a significant decrease was found both in the perception of labor pain and total scores (fear of birth) after hypnosis. The total score of the patients in group 0-1 (excessive pain) was 92.00±20.00, whereas in group 4-5 (little pain-painless), it was 64.88±6.89 before hypnosis (F=10.977, P<0.001), and the total score in group 2-3 (moderate pain) was 28.5±12.51, whereas in group 4-5, it was 21.89±7.96 (KW=59.396, P<0.001).

Table 1. Classification of fear of birth according to W-DEQbefore and after hypnosis

Fear of Birth (n=75)	n	%
Wijma classification before hypnosis		
Fear of birth at an intermediate level	6	8
Fear of birth at a severe level	31	41.3
Fear of birth at a clinical level	38	50.7
Wijma classification after hypnosis		
Fear of birth at an intermediate level	68	90.7
Fear of birth at a severe level	6	8
Fear of birth at a clinical level	1	1.3

Table 2. Pre-hypnosis/post-hypnosis total Wijma and the thought of labor pain scores in all pregnant women

Pre-test		Post-test		Statistical Analysis* Probability
X̄ ±S.S.	Median [Min-Max]	X̄ ±S.S.	Median [Min-Max]	
Total Wijma				
85.73±15.58	85.0 [50.0-124.0]	24.80±11.11	22.0 [5.0-69.0]	Z=-7.520 p=0.000
Thought of labor pain				
1.89±1.29	2.0 [0.0-5.0]	3.65±0.99	4.0 [1.0-5.0]	Z=-7.673 p=0.000

*Wilcoxon test (Z-table value)

Table 3. Comparison of pre- and post-hypnotic pain perception

		Pre-hypnosis					Statistical Analysis* Probability
		0-1		2-3		4-5	
		n	%	n	%	n	%
Post-hypnosis	0-1	1	3.3	-	-	-	-
	2-3	27	90.0	3	8.1	-	-
	4-5	2	6.7	34	91.9	8	100.0

*Mcnemar-Bowker Test

Note: The "Statistical Analysis* Probability" value p=0.000 spans the data rows.

Discussion

Fear is a feeling of anxiety aroused by the thought of danger or the possibility of danger. In pregnant women who have fear of birth, the subconscious considers birth as a danger. In this study, we aimed to overcome the subconscious fear of vaginal delivery in pregnant women and to change the perception of pain felt by reducing fear and anxiety with hypnosis, and found that the thought about labor pain and labor anxiety, as well as fear of childbirth, significantly decreased with hypnosis applied to pregnant women.

One of the reasons for the increased cesarean rates is the fear of pain and vaginal delivery [4]. Studies indicate that fear of birth is a common phenomenon, severe in 6–10% of pregnant women, and an important reason for cesarean section [10].

Cakmak et al. (2014) found that the most common causes of cesarean section were fear of vaginal delivery and the thought that pain during cesarean section is less than in normal delivery [11]. Similarly, Jenabi et al. (2019) stated that fear of labor pain was found as the most important factor influencing women to choose cesarean section [12]. An interesting finding from the study by Akarsu and Mucuk (2014) was that although Turkish women believed that the ideal mode of delivery was vaginal, nearly half of them preferred cesarean delivery due to labor pain and fear [13].

Fear of pain is strongly associated with the fear of labor, and a previous negative childbirth experience or inadequate pain relief are the most common reasons for requesting a cesarean section. Consistent with the extant literature, in our study, we found that the thought of labor pain increased the fear of birth significantly. A significant decrease was found both in the perception of labor pain and fear of birth after hypnosis.

About 40% of women who are afraid of childbirth also endorse a fear of unbearable pain during birth. Dehghani et al. (2014) investigated the relationship between fear of pain and preference of cesarean section and suggested that it is very important to pay attention to reducing not only fear of birth but also fear of pain in pregnant women [14]. Similarly, Geissbuehler and Eberhard (2002) examined the reasons of fear during childbirth and found that the most frequent reasons mentioned were fear for the child's health and fear of pain [15]. Management of labor pain is an essential aspect of obstetric care and the major goal of intrapartum care. In recent years, many women have wanted to avoid pharmacological or invasive methods of pain relief during labor, and as a result, complementary methods like hypnosis have become increasingly popular. It has been proven that hypnotic techniques can be useful for a different kind of pain and have long been used for this purpose [16,17]. The term hypnosis first appeared in the

1840s and has been reported as an effective method of pain relief during childbirth in recent years [18]. Although parenteral opioids or epidural analgesia relieve pain during labor, they have also been associated with increased risks of adverse maternal effects, and their effects on the newborn are unclear [19]. Therefore, although there are still only a relatively small number of studies assessing the use of hypnosis for childbirth, in recent years, it has become increasingly popular as a means of labor pain management. A Cochrane review concluded that hypnosis might reduce the overall use of pharmacological analgesia during labor [18].

In our study group, it was observed that although patients thought labor was painful before hypnosis, this idea meaningfully changed after hypnosis. It can be clearly stated that altering patients' perception of pain and anxiety can help reduce the severity of pain at birth they feel. In their study, Abbasi et al. trained 6 women to use self-hypnosis for labor in their study and stated that patients had experienced neither discomfort nor severe pain associated with delivery when they were hypnotized and tried to describe the effect of hypnosis on pain relief during labor and childbirth [20]. Similarly, Prasertcharoensuk and Thinkhamrop (2004) examined alternative and complementary therapies for pain management in labor, and found that women receiving hypnosis were more satisfied with their pain management in labor compared with controls [21]. Although the comparison of hypnosis with opioids or epidural anesthesia is not appropriate, as there is no known maternal or fetal side effect of hypnosis, it can easily be said that this is an important advantage. The Australian and New Zealand College of Anesthetists recommends considering non-pharmacological options before pharmacological options for pain management during pregnancy, as pain medications generally cross the placenta [22]. Neuro-imaging studies found that hypnosis reduced pain experienced from hot, noxious stimuli, and that the process was mediated by the anterior cingulate cortex [23]. Both effective and sensory aspects of pain perception were reduced when participants used hypnosis [23].

Psychosocial factors, including anxiety, fear, feelings of self-efficacy and social support have also been shown to have a relationship with women's experiences of labor pain. When we evaluated fear of childbirth, we found that pregnant women had significantly lower fear of birth after hypnosis. Most studies show an association between hypnosis and a decrease in fear of childbirth [20,24]. Similar to our results, in a randomized controlled trial conducted by Werner et al. among 1222 healthy Danish nulliparous women, the tendency towards better childbirth experience was seen for the mode of delivery and lower levels of fear were seen in the self-hypnosis group [25]. When a woman learns to release the preconceptions, fears, and worries about birth that are widespread in our society, her experience of giving birth to her baby can be the most beautiful and empowering experience of her life. Mind and body working together can be a powerful and efficient combination.

As a result, the cross-sectional nature of this study, the small number of participants, its homogeneity are the limitations of this study in the interpretations of the results and in future. As the mothers could not be observed at birth, pain conditions and fears at birth were not detected. Despite these limitations, our work broadens the understanding of the effect of hypnosis on reducing the fear of pain and childbirth in pregnant women. Considering the increasing rates of cesarean section in Turkey and all over the world, with widespread hypnosis application to pregnant women, optional cesarean sections along with fear of childbirth are expected to decrease. The potential anxiolytic and analgesic effects of clinical hypnosis for childbirth merit further larger prospective studies.

Conclusion

The most common cause of increasing cesarean rates is fear of pain and vaginal delivery, which pushes the pregnant women to avoid vaginal delivery and demand cesarean section. We have demonstrated that hypnosis had a serious effect on reducing the severity of pain, anxiety and fear of childbirth. Taking into account the increased rates of cesarean sections in Turkey, the effect of hypnosis on reducing fear of childbirth should not be ignored and be emphasized on the use of a good alternative in increasing normal birth rates in our country and worldwide.

References
1. Souza JP, Betran AP, Dumont A, de Mucio B, Gibbs Pickens CM, Deneux Tharaux C. A global reference for caesarean-section rates (C-Model): a multi country cross-sectional study. BJOG. 2016;123(3):427-36.
2. World Health Organization. Appropriate technology for birth. Lancet 1985; 326(8452):436-7.
3. Betran AP, Ye J, Moller AB, Zhang J, Gulmezoglu AM, Torloni MR. The Increasing Trend in Caesarean Section Rates: Global, Regional and National Estimates: 1990-2014. PLoS One. 2016; 11(2):e0148343.
4. Karabel MP, Demirbaş M, İnci MB. Changing Rates of Cesarean Section in Turkey and in the World and Probable Causes. Sakarya Medical Journal. 2017; 7(4):158-63.
5. Simkin P, Bolding A. Update on nonpharmacologic approaches to relieve labor pain and prevent suffering. J Midwifery Womens Health. 2004; 49(6):489-504.
6. Wijma K, Wijma B, Zar M. Psychometric aspects of the W-DEQ; a new questionnaire for the measurement of fear of childbirth. J Psychosom Obstet Gynaecol. 1998;19(2):84–97.
7. Ryding EL, Wirfelt E, Wangborg IB, Sjögren B, Edman G. Personality and fear of childbirth. Acta Obstetricia Et Gynecologica Scandinavica. 2007; 86(7):814–20.
8. Wiklund I, Edman G, Ryding EL, Andolf E. Expectation and experiences of childbirth in primipare with caesarean section. BJOG. 2008;115(3):324–31.
9. Körükçü Ö, Kukulu K, Fırat MZ. The reliability and validity of the Turkish version of the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) with pregnant women. J Psychiatr Ment Health Nurs. 2012;19(3):193-202.
10. Dehghani M, Sharpe L, Khatibi A. Catastrophizing mediates the relationship between fear of pain and preference for elective caesarean section. Eur J Pain. 2014; 18(4):582-9.
11. Cakmak B, Arslan S, Nacar MC. Opinions of Women About Cesarean Delivery on Maternal Request. Fırat Medical Journal 2014; 19(3):122-5.
12. Jenabi E, Khazaei S, Bashirian S, Aghababaei S, Matinnia N. Reasons for elective cesarean section on maternal request: a systematic review. J Matern Fetal Neonatal Med. 2019; 8:1-6.
13. Akarsu RH, Mucuk S. Turkish women's opinions about cesarean delivery. Pak J Med Sci. 2014; 30(6):1308-13.
14. Dehghani M, Sharpe L, Khatibi A. Catastrophizing mediates the relationship between fear of pain and preference for elective caesarean section. Eur J Pain. 2014; 18(4):582-9.

15. Geissbuehler V, Eberhard J. Fear of childbirth during pregnancy: a study of more than 8000 pregnant women. J Psychosom Obstet Gynaecol. 2002; 23(4):229-35.

16. Elkins G, Jensen MP, Patterson DR. Hypnotherapy for the management of chronic pain. Int J Clin Exp Hypn. 2007; 55(3):275-87.

17. Wortzel J, Spiegel D. Hypnosis in Cancer Care. Am J Clin Hypn. 2017;60(1):4-17.

18. Madden K, Middleton P, Cyna AM, Matthewson M, Jones L. Hypnosis for pain management during labour and childbirth. Cochrane Database Syst Rev. 2016; 19(5):CD009356.

19. Smith LA, Burns E, Cuthbert A. Parenteral opioids for maternal pain management in labour.Cochrane Database Syst Rev. 2018;5(6): CD007396.

20. Abbasi M, Ghazi F, Barlow-Harrison A, Sheikhvatan M, Mohammadyari F. The effect of hypnosis on pain relief during labor and childbirth in Iranian pregnant women. Int J Clin Exp Hypn. 2009; 57(2):174-83.

21. Prasertcharoensuk W, Thinkhamrop J. Non-pharmacologic labour pain relief. J Med Assoc Thai. 2004; 87(Suppl. 3):S203-6.

22. Schug SA, Palmer GM, Scott DA, Halliwell R, Trinca J. Acute pain management: scientific evidence, fourth edition, 2015. Med J Aust. 2016; 204(8):315-17.

23. Faymonville ME, Laureys S, Degueldre C, Delfiore G, Luxen A, Franck G, et al. Neural mechanisms of antinociceptive effects of hypnosis. Anesthesiology. 2000; 92(5):1257-7.

24. Hosseini A, Sobhanifar MA, Forouzanfar F, Aghaee A, Rakhshandeh H. Hypnotic Effect of Red Cabbage (Brassica oleracea) on Pentobarbital-Induced Sleep in Mice. J Pharm Bioallied Sci. 2018; 10(1):48-53.

25. Werner A, Uldbjerg N, Zachariae R, Wu CS, Nohr EA. Antenatal hypnosis training and childbirth experience: a randomized controlled trial. Birth. 2018;40(4):272-80.